ABSTRACT OF THE DISCLOSURE

Methods, compositions and kits are disclosed. The methods are directed to determining the presence of one or more analytes in a sample suspected of containing any one of a plurality of the analytes. A combination is provided comprising in a medium (i) the sample, (ii) a binding partner for each of the analytes, (iii) for each of the analytes, a first reagent comprising a member of a signal producing system, a ligand and an analyte analog, and (iv) a second reagent comprising a binding partner for the ligand. The binding of the binding partner for the ligand is affected by the presence of an analyte and alters the amount of signal produced by the member of the signal producing system. The signal thus is modulated if one or more of the analytes are present in the sample. The amount of the signal is determined and is related to the presence of one or more of the analytes in the sample. The method may be homogeneous or heterogeneous.